

XII. *On the Position of the Rhopalosomidae, with the Description of a Second Species.* By CLAUDE MORLEY, F.Z.S., F.E.S.

[Read June 1st, 1910.]

PLATE L.

AMONG the various boxes of *Ichneumonidae* received by me in connection with the "Fauna of India," one from the Indian Museum at Calcutta and another from Colombo contained the sexes of an insect I entirely failed to place. Mr. Rowland Turner has, however, been so good as to point out to me its very close relationship with the anomalous genus *Rhopalosoma*, Cresson (Proc. Ent. Soc. Philad., iv, 1865, p. 58, pl. vi = *Sibyllina*, Westw., Trans. Ent. Soc. 1868, p. 329). Though probably generically distinct therefrom, it is so extremely unlike any other known Hymenopteron that I am strongly averse to erecting a temporarily unnecessary genus for its reception; and I shall, consequently, describe it as

*RHOPALOSOMA ABNORMIS*, sp. n. (Plate L, fig. 15.)

An entirely testaceous species with only the flagellum and eyes black, the mandibles and anus infusate. Head short but not abruptly constricted behind the internally subacutely emarginate eyes; occiput abruptly declived, bordered below and not emarginate; vertex neither broad nor punctate, laterally impressed behind the outer ocelli, which are prominent and enclose a triangular black mark, with the apical ocellus below the level of the upper orbits; frons convex and very obsoletely punctate, finely carinate longitudinally in the centre; face extremely short, strongly transverse and obsoletely transaculate; clypeus obsoletely discreted, large, transverse and truncate at both extremities; labrum slightly exserted and broadly rounded, not trilobed, apically; mandibles strong and subtridentate with a large black apical tooth, surmounted by one half its length and a third minute excrescence; palpi flavous and elongate. Antennae inserted at centre of eyes and hardly longer than half body, black and strongly attenuate throughout with the apically truncate and biarticulate scape alone pale; flagellum eleven-jointed in ♂, ten-jointed in ♀, with the joints pilose, elongate, cylindrical, and the basal seven or eight each internally emitting two distinct setae from its apex; terminal joint coriaceous, thrice longer than broad and

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apically acuminate. Thorax subcylindrical, obsoletely pilose and hardly punctate throughout; prothorax normal and extending to base of tegulae; mesonotum gradually declived anteriorly, finely sulcate above tegulae but with no notauli; metathorax evenly declived with no trace of carinae, its spiracles oblique, impressed and sub-linear: mesosternum very short, convex throughout, pilose and not laterally sulcate. Scutellum immarginate, subdeplanate, triangular and apically obtuse, obsoletely punctate and pilose with its basal fovea simple. Abdomen subnitidulous, shagreened and shortly pilose; basal segment subsessile, basally half the length of its apical breadth, which is hardly half (or in ♀ a third) of its total length, convex and with no sculpture, gradually explanate to near its constricted apex with distinct spiracles at its basal third and a determinate discal fovea before its apex; second segment as long as the first and about half as broad again, gradually explanate basally and not strongly constricted at its apex, with its base both above and below longitudinally multistrigose and thyridii linear; third and fourth segments together about as long as second and extremely closely connected though not connate, the fourth becoming narrower apically with its dorsal margin subemarginate; fifth as long as fourth; sixth and in ♂ seventh much shorter and deflexed; venter convex throughout and not plicate, with four well-developed segments and two very short ones preceding the (♂) stout and black genital valvulae, which extend only to the anus, or (♀) the elongate hypopygium, which extends to anus and covers base of the minute terebra. Legs very slender but not elongate, hind ones of ♂ hardly extending beyond the abdomen; anterior trochanters appear uni- (though probably no more than telescoped), the hind ones bi-articulate; front tibiae hardly longer than the ♂ metatarsi, and sparsely spinose internally, each with a single elongate and basally sinuate calcar; tarsi long and in ♂ slender with the claws small and pectinate, basally not lobed though shortly pulvillate in ♀, with the four apical joints strongly spatuliform and dilated with their apex setiferous on either side and base constricted, claws simple and shorter than the bilobed pulvilli; posterior femora apically subspinose internally with their tibiae very elongately bicalcarate; front and hind metatarsi basally sinuate, the latter with the inner calcar basally strongly pectinate in ♀. Wings neither broad nor ample, hyaline with the stigma narrow, inconspicuous and centrally subconstricted; all the nervures testaceous; upper wing with nervures disposed as in Ichneumonidae excepting the extreme pellucescence of the second recurrent which is, however, distinctly traceable and the aberrantly bifurcate first intercubital or submarginal nervure; upper basal nervure emitted from the median much further from base than the

lower ; lower basal cell with an elongate, free and simple nervure. Lower wing with the neurulation of Ichneumonidae excepting an elongate and basally pellucid additional nervure, between the median and radial ; nervellus straight, opposite and not intercepted, with the wing margin cleft to near its junction with the posterior nervure and another very distinct incision at the humeral nervure, rendering the anal angle entirely lobate. Length, 10 mm. ♂ ♀.

A single example of each sex is all I have seen of this remarkable insect. The ♀ (type) is in my collection, and was most kindly given me by Mr. O. S. Wickwar, of Colombo, who took it at Mankulam, in Northern Ceylon, during November 1908. The ♂ is in the Calcutta Museum, under Dr. Annandale's care ; it was captured at that city on August 9, 1907.

My insect differs to an appreciable extent from the only previously described species of the Rhopalosomidae *R. poeyi*, which was brought forward by Cresson (*loc. cit.* p. 59) in his paper "On the Hymenoptera of Cuba," and three years later by Westwood under the synonymous name *S. aenigmatica* in his paper (*loc. cit.*) "Descriptions of New Genera and Species of Exotic Hymenoptera." Therefrom the male of *R. abnormis* differs in its posterior tarsi which bear no combing apparatus, and in having the calcaria equally long in both ; the hypopygium is retracted, and does not entirely conceal the base of the non-exserted valvulae, as is the case in the female *R. poeyi*, which also has the terebra slightly exerted, the spicula reflexed and exceeding the valvulae in length ; the basal segment is less elongate in *R. abnormis* with the second not abruptly constricted and arcuate, though similarly (as in *Tiphia*) trans-strigose, basally ; the discal segments are equally emarginate, and the conformation of the metathoracic spiracles is alike in both, but I fail to discover any trace of distinct petiolar spiracles in *R. poeyi*.

These points of divergence are drawn from the three female specimens of Cresson's species in the British Museum, two of which were captured in St. Domingo by Mr. Tweedie (not Tweedy, as given by Westwood) and acquired in 1855 ; and the third, from Jamaica, *ex coll.* Gosse, was obtained in 1847 ; it is also known to occur in Hayti. The localities of the new species are consequently of great interest and show it to be widely distributed in the Oriental region.

The affinities of the present genus are so uncertain that it is well to regard it as a distinct family. To prove this it is only necessary to remark that Nylander thought it an ant, Haliday a Fossor, Westwood a social wasp, Smith an Ophionid Ichneumon, and Cresson a Braconid! The last places it unhesitatingly in "Braconides," but "Division——?" Yet in his very rough figure he dots the second recurrent nervure as being pellucid and at least traceable; he thought it "a connecting link between the *Ichneumones genuini* and the *adsciti*; from the former it differs by the paucity of the antennal joints, and from the latter by the anterior wings having a faint indication of a second recurrent nervure. Its structure places it, beyond doubt, in the family *Ichneumonidae*" (*sensu lato*), "while its general appearance, together with the arrangement of the wing veins, seems to place it among the *Adsciti*, where I will allow it to remain for the present." Fred Smith "On the Affinities of the Genus *Sibyllina*, of Westwood" (Proc. Ent. Soc. 1868, p. 1), is chiefly concerned in showing—as he conclusively does—that this insect cannot appertain to the *Vespidæ*, as placed by Westwood, who however was so uncertain as to add *quoad affinitates animum exerceans*! But the position assigned it by Smith, with some assurance, near the Ichneumonidous genus *Anomalon* is equally untenable in these days of fuller knowledge of that family, especially since the contrary sexes possess simple tarsi (*cf.* also Meeting of Ent. Soc., November 16, 1868).

Many pertinent characters of its relationship are set forth by Westwood in his Thesaur. Ent. Oxon. (1874, pp. 130–31), and the male is beautifully figured at *lib. cit.* p. xxiv, fig. 9; but, still inclining to place it in the *Aculeata*, he is unable to suggest any natural position for the genus. Dalla Torre, so far from assisting us in the matter, places *Rhopalosoma* among the *genera sedis incertae* at the tail of the *Braconidae* (Cat. Hym. iv, 1898, 307) and *Sibyllina*—incorrectly rendering Westwood's name *Sybillina*—almost at the beginning of the *Vespidæ* (*l. c.* ix, 1894, 113). The synonymy has never been questioned, and is, I consider, sufficiently apparent.

For my own part, I am entirely satisfied that the *Rhopalosomidae* can be placed nowhere among the Parasitica or Terebrant Hymenoptera, a favourite dumping ground for aberrant genera in days when they were less studied than is now the case. Fred Smith appears equally

satisfied that it has no place among the Aculeates; but Haliday wrote, "I consider it a Sphegid, with smooth legs, near *Pelopacus*," and he was rarely incorrect: in 1900, Ashmead (Canadian Entom., xxxii, p. 148; cf. also Proc. Ent. Soc. Wash., iii, p. 303) erected a family for the sole reception of this genus of a single species and placed it between the *Cosilidae* and *Thynnidae*, with neither of which it is at all closely connected. Sharp (Camb. Nat. Hist., ii, 101) "can express no opinion as to whether it is allied to the *Scoliidae* or to the *Sphegidae* \*"; he takes it for granted that it should stand near one or the other, and in that case the lobation of the hindwings renders it closer to the former.

The facts of the antennae being thirteen-jointed in ♂ and twelve-jointed in ♀, and of the dorsal abdominal segments being seven in ♂ and six in ♀, certainly prove it to be ACULEATE; though the neuration is that of the ICHNEUMONIDAE (probably most closely resembling that of Förster's genus *Barylypa* among the Anomalides), with a few additional nervures.

Granting it an Aculeate, related to the Scoliidae, we can do little more than say with Fred Smith, "Place *Sibyllina* in any group of the Hymenoptera, and it will, as it were, stand alone; it has little affinity that I can discover, certainly it has no strong affinity, with any other known insect."

Have we here the "ancestral type" of Hymenopteron, emitting Fossores according to its body and Parasites according to its wings? Or more probably this anomalous combination is brought about by some process (though hardly cross-breeding of *Pelopacus* and *Anomalon*!) of very remarkable specialisation.

\* I am afraid the name *Sphegidae* is too well established to ever be universally corrected now-a-days. In May 1900, the late Rev. T. A. Marshall wrote to me, "I enter a protest against the spelling of the Ichneumon genus *Sphegophaga*. Σφήξ, genitive σφηκός, "wasp" in Greek, should be rendered in our nomenclature *Spheg*, *sphecis*, etc., as the older authors well knew. The mistake of *sphegis*, *Sphegidae*, is a new corruption, which, if sanctioned, will be forthwith adopted by everybody. I fear it is almost too late now. Such blunders are trifling, of course, but I know no reason why a mistake of spelling should be allowed in Greek and Latin, when it would be hooted in English."

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